BIBLIOGRAPHY OF THE COMPUTER CODES LITERATURE
EXAMINED BY THE
RADIATION SHIELDING INFORMATION CENTER

July 1966

Betty F. Maskewitz   Betty L. McGill   Jane Gurney
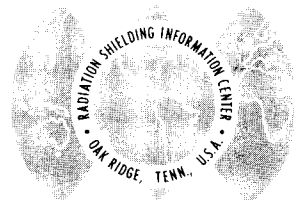
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*Oak Ridge Computer Sciences Center

OCTOBER 1966

OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee
operated by
UNION CARBIDE CORPORATION
for the
U.S. ATOMIC ENERGY COMMISSION

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INTRODUCTION

One of the most important functions of an information center is that of keeping abreast of literature in the area of interest. The staff of the Radiation Shielding Information Center makes a continuous effort to survey the literature to select that which may be of interest to the shielding community. Literature describing computer codes is kept separate from the general literature since indexing schemes would be quite different and the useful life of a code is comparatively short. Thus, the bibliographies of the general literature are published separately.*

This bibliography covers literature which describes not only shielding computer codes, but nuclear codes in a fringe area of shielding, and some miscellaneous information which might be of general interest. Thus this literature may be useful even though the codes which are described may not be considered suitable, or may not be available, for the codes collection.

The reports are grouped according to the originating installations, with the report number listed in alphabetical and/or numerical order. There has been no attempt to classify or categorize the reports, other than to indicate the computer for which a code was written and the programming language in which it was written, although this may be done in the future.

RSIC collects and maintains a file of documents for its own use and does not perform the service of a documentation center. In general, the literature selected for this bibliography may be obtained elsewhere. An exception made to this policy is that documentation is included in the code packages distributed by the Center.

The RSIC staff requests that the users of this bibliography call to the attention of the staff any literature which has not been covered in this issue and that RSIC be included in the external distribution of literature describing computer codes originating at their installations.

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*D. K. Trubey, S. K. Penny, and M. B. Emmett, Bibliography, Subject Index, and Author Index of the Literature Examined by the Radiation Shielding Information Center, ORNL-RSIC-5 (December 1964); and R. G. Alsmiller, Jr., F. S. Alsmiller, and J. Gurney, Bibliography, Subject Index, and Author Index of the Literature Examined by the Radiation Shielding Information Center (Space and Accelerator Shielding), ORNL-RSIC-11 (January 1966).

C O D E S   R E P O R T   C O L L E C T I O N

COMPLETE INVENTORY

AS OF
JULY, 1966

AAEC — AUSTRALIAN ATOMIC ENERGY COMMISSION
LUCAS HEIGHTS
SUTHERLAND, N.S.W., AUSTRALIA

AAEC/E-114   1963   MULGA
MULGA - A COMPLEX OF CODES FOR THE DETERMINATION OF
MULTIGROUP AVERAGED NEUTRON CROSS SECTION DATA
BY B. E. CLANCY, G. DOHERTY, A. KEANE, E. KLETZMAYR
AND J. P. POLLARD
IBM-1620 AND -7090

AAEC/E 126   AUGUST 1964   PEAS
PEAS - A RESONANCE ABSORPTION PROGRAMME
BY J. P. POLLARD

RP/TN82   APRIL 1965   DSN
FORTRAN DSN
BY B. CLANCY, A. SCOTT, AND M. STEPS
FORTRAN IV FOR IBM-7040, -7044

AE   — AKTIEBOLAGET ATOMENERGI
STOCKHOLM, SWEDEN

AE-6   JULY 1959   NT
MONTE CARLO CALCULATIONS OF NEUTRON THERMALIZATION
IN A HETEROGENEOUS SYSTEM
BY T. HOGBERG

AE-14   JULY 1959   GARLIC
A SHIELDING PROGRAM FOR GAMMA RADIATION FROM LINE- AND
CYLINDER-SOURCES
BY MATTS ROOS

AE-35   JUNE 1960   MND
    THE MULTIGROUP NEUTRON DIFFUSION EQUATIONS/ 1 SPACE DIMEN-
    SION
    BY SVEN LINDE

AE-145   JUNE 1964   NRN
    A USERS MANUAL FOR THE NRN SHIELD DESIGN METHOD
    BY L. HJARNE
    FERRANTI MERCURY COMPUTER

AE-FFA-673-RFN-213   OCTOBER 1965   NRN
    A PRELIMINARY USERS MANUAL FOR THE NRN SHIELD DESIGN
    METHOD IN FORTRAN IV LANGUAGE
    BY KJ. NYMAN, K. LINDBLOM, KJ. OLSSON, K. MALEN, E. AALTO,
    AND G. OLSSON
    FORTRAN IV FOR IBM 7044 AND 7090

AECL   -   SEE CRRP

AEEW   -   UK-AEA-WINFRITH
    DORCHESTER, DORSET, ENGLAND

    AEEW-M 261   AUGUST 1962   RASH D
        RASH D - A MERCURY PROGRAMME FOR NEUTRON SHIELDING CAL-
        CULATIONS
        BY D. E. BENDALL

    AEEW-M 304   APRIL 1963   ERIC I
        ERIC I, A FORTRAN PROGRAMME FOR CALCULATING RESONANCE
        INTEGRALS, AND SOME EXAMPLES OF ITS USE
        BY MRS. H. M. SUMNER

    AEEW-M 318   APRIL 1963   PIXSE
        PIXSE
        BY J. D. MACDOUGALL

    AEEW-M 347   JULY 1964   CHECK
        CHECK - AN IBM 7030 S2 (FORTRAN) PROGRAMME FOR CHECKING THE
        SELF-CONSISTENCY OF NEUTRON CROSS-SECTION DATA IN THE
        UKAEA NUCLEAR DATA LIBRARY
        BY L. W. BLOTT AND K. PARKER

AEEW-M 444   APRIL 1964   -
    A MERCURY PROGRAMME FOR TRANSFORMING DATA ON THE ANGULAR
    DISTRIBUTION OF ELASTICALLY SCATTERED NEUTRONS TO ONE
    STANDARD FORM
    BY D. C. KING

AEEW-M 449   AUGUST 1964   PIP2
    THE PROGRAMME PIP2 FOR LATTICE CELL THERMAL CALCULATIONS
    BY A. J. CLAYTON

AEEW-M 458   FEBRUARY 1965   GMSI
    A GENERALIZED MULTIGROUP SYSTEM OF CALCULATIONS USING THE
    IBM-7030(STRETCH) COMPUTER
    BY C. P. GRATTON AND P. E. SMITH
    FORTRAN FOR IBM-7030

AEEW-M-467 (MF)   AUGUST 1964   FLICI
    THE FLICI CONVERSION CODE
    BY J. C. BASHER
    FORTRAN II FOR IBM 7090

AEEW-M-469 (MF)   OCTOBER 1964   PRIZE
    A PROGRAM FOR CALCULATING COLLISION PROBABILITIES IN
    R-Z GEOMETRY
    BY H. H. W. PITCHER
    FORTRAN II FOR IBM 7090

AEEW-M-477 (MF)   NOVEMBER 1964   FLIRT
    EXTENSIONS TO THE COMPUTER CODE FLIRT
    BY H. E. WRIGHLEY AND M. E. R. VEALE

AEEW-M 517   MARCH 1965   MLBW
    A MULTI-LEVEL BREIT-WIGNER COMPUTER PROGRAMME
    BY K. GREGSON, M. F. JAMES, AND D. S. NORTCN
    FORTRAN II FOR IBM-7090

AEEW-R 45   OCTOBER 1960   CHES
    A MONTE CARLO PROGRAM FOR CALCULATING HIGH ENERGY SPECTRA II
    CYLINDRICAL GEOMETRY ON THE IBM 709 COMPUTER
    BY S. FRANCESCON

AEEW-R 250   JANUARY 1963   THULE
    A PRELIMINARY DESCRIPTION OF THULE
    BY D. C. LESLIE AND M. J. TERRY

AEEW-R 253   APRIL 1963   THESEUS
    A ONE GROUP COLLISION PROBABILITY ROUTINE FOR ANNULAR
    SYSTEMS
    BY A. JONSSON

AEEW-R 273   MAY 1963   WDSN
     THE WINFRITH DSN PROGRAMME
     BY S. FRANCESCON
     FORTRAN

AEEW-R 323   APRIL 1964   ERIC-2
     ERIC 2, A FORTRAN PROGRAM TO CALCULATE RESONANCE INTE-
     GRALS AND FROM THEM EFFECTIVE CAPTURE AND FISSION CROSS-
     SECTIONS
     BY HELEN M. SUMNER

AEEW-R 370   MAY 1964   -
     THE CALCULATION OF CELL-AVERAGED DIFFUSION COEFFICIENTS
     BY S. FRANCESCON AND I. C. PULL

AEEW-R 379   AUGUST 1964   GALAXY 3
     A USERS GUIDE TO GALAXY 3
     BY V. J. BELL, L. W. BLOTT, W. M. M. KERR, K. PARKER,
     I. C. PULL, R. D. WADE, AND D. V. J. WILLIAMS
     FORTRAN II FOR IBM 7090

AEEW-R 390   AUGUST 1964   PERSEUS
                                                ARIADNE
                                              CERBERUS
     THE IBM 7090 PROGRAMMES PERSEUS, ARIADNE, AND CERBERUS
     BY C. GREENE
     FORTRAN II

AEEW-R-425   APRIL 1965   ZADOC
     A TWO GROUP, TWO DIMENSIONAL FUEL MANAGEMENT PROGRAMME
     FOR IBM 7090 OR STRETCH
     BY F. R. ALLEN
     FORTRAN II, IBM 7090

DP-REPORT-309 (MF)   JANUARY 1965   HELIOS
     A ZERO-DIMENSIONAL MULTI-GROUP BURN-UP PROGRAMME
     (DRAGON PROJECT REPORT)
     BY J. SCHLOESSER
     IBM 7090

AEG   -   ALLGEMEINE ELEKTRICITATS - GESELLSCHAFT
          KERNENERGIEANLAGEN
          HOCHHALS, GERMANY

AEG-KEA 116   OCTOBER 1963   MAC-RAD
     (ORNL-TR-610)
     A MULTIGROUP ATTENUATION CODE FOR PLANE GEOMETRY
     BY H. PREUSCH AND H. ILSEMANN
     FORTRAN FOR IBM-7090

AERE - UK-AEA-HARWELL
          BERKSHIRE, ENGLAND

    AERE-R 2882   MARCH 1959   GASH
        A PROGRAMME FOR CALCULATING THE GAMMA RAY FLUX THROUGH
        A MULTILAYER SHIELD
        BY D. E. BENDALL
        ALTOCODE FOR FERRANTI MERCURY COMPUTER

    AERE-R 3082   OCTOBER 1959   SHARN
        A COMPUTER PROGRAMME FOR DETERMINING THE DISTRIBUTION OF
        PENETRATING NEUTRONS IN REACTOR SHIELDS
        BY D. E. BENDALL
        FERRANTI MERCURY COMPUTER

    AERE-R 3216   FEBRUARY 1960   RASH B
        METHODS OF CALCULATION FOR USE IN THE DESIGN OF SHIELDS
        FOR POWER REACTORS
        BY A. F. AVERY, D. E. BENDALL, J. BUTLER, AND K. T. SPINNEY
        FERRANTI MERCURY COMPUTER

    AERE-R 4553   AUGUST 1964   SPECIFIC
        SPECIFIC, A MONTE CARLO PROGRAMME FOR HIGH ENERGY NEUTRON
        SPECTRUM ESTIMATION
        BY M. P. KUFFLE
        FORTRAN FOR IBM 7030

AGN   - AEROJET-GENERAL NUCLEONICS
          SAN RAMON, CALIFORNIA

    AGN-TM-392   JUNE 1961   2DXY
        TWO DIMENSIONAL, CARTESIAN COORDINATE SN TRANSPORT
        CALCULATION
        BY J. BENGSTON, S. T. PERKINS, T. W. SHEHEEN, AND
        D. W. THOMPSON
        FLOCO II FOR IBM 7090, 709, AND 704

    AGN-TM-407   APRIL 1965   AGN-GAM
        AGN-GAM AN IBM-7090 CODE TO CALCULATE SPECTRA AND MULTI-
        GROUP CONSTANTS
        BY T. P. WILCOX AND S. T. PERKINS
        FORTRAN FOR IBM-7090

AGN-TP-44   JULY 1963   RISC
    RADIOLOGICAL INHALATION SAFETY CODE
    BY G. H. ANNO, P. J. DUBOIS, T. P. WILCOX, AND
    J. K. WITTHAUS
    FORTRAN FOR IBM-7090 OR -7094

AI   -   ATOMICS INTERNATIONAL
           CANOGA PARK, CALIFORNIA
           (SEE ALSO NAA)

AI-CONF-642-8   JUNE 1964   CURIE
                                                            DOSE
                                                            THUNDERHEAD
    AN IMPROVED METHOD OF DOSE CALCULATION FROM AIRBORNE
    FISSION PRODUCTS
    BY NORMAN A. HARRIS
    FORTRAN FOR IBM-7094

AI-MEMO 64-67   APRIL 1964   TAPER II
    A FISSION PRODUCT CODE
    BY JOANNE S. TEMPLE AND R. A. BLAINE
    FORTRAN FOR IBM 709/7090

AI-MEMO 64-102   MAY 1964   PERT
    A PERTURBATION THEORY CODE
    BY H. P. FLATT
    IBM 7090

AI-MEMO 64-185   AUGUST 1962   BAM
    A CODE TO COMPUTE THERMAL GROUP CONSTANTS
    BY R. A. BLAINE, V. E. ANDERSON, AND B. F. MASKEWITZ

AI-MEMO 64-261   DECEMBER 1964   BAM IV
    BAM IV
    EXTENSION AND CONVERSION OF THE BAM CODE TO FORTRAN IV
    BY R. A. BLAINE
    FORTRAN IV FOR IBM-7094

AI-MEMO-9201, REV.1   APRIL 1964   -
    ABSTRACTS OF AVAILABLE CODES AT ATOMICS INTERNATIONAL
    BY R. A. BLAINE

AML — DAVID TAYLOR MODEL BASIN
          DEPARTMENT OF THE NAVY, APPLIED MATH. LAB.
          WASHINGTON, D. C.

    AML-103   MAY 1950   RDR-5
       MULTIGROUP TRANSPORT CODE RDR-5
       BY CHARLES DAWSON

AMRL — AEROSPACE MEDICAL RESEARCH LABORATORIES
          AIR FORCE SYSTEMS COMMAND
          WRIGHT-PATTERSON AIR FORCE BASE, OHIO

    AMRL-TDR-64-11   FEBRUARY 1964   CARS
       COMPUTER ANALYSIS OF RADIATION SHIELDING
       BY LOREN PITTMAN AND R. E. FORTNEY

ANL — ARGONNE NATIONAL LABORATORY
          LEMONT, ILLINOIS

    ANL-5859   JUNE 1959   RE-34
       RE-34, AN IBM-704 REACTOR SHIELDING PROGRAM
       BY M. K. BUTLER AND J. M. COOK

    ANL-7023   MARCH 1965   THERMOS
       THE ARGONNE-REVISED THERMOS CODE
       BY B. J. TOPPEL AND I. BAKSYS
       FORTRAN 63, CDC 3600

    ANL-7052   JUNE 1965   DEL
       A PERTURBATION PROGRAM WRITTEN IN FORTRAN
       BY LOUIS C. KVITEK
       FORTRAN, IBM-704

APEX   -   SEE XDC

ARL TECH. RPT.   SEE UNC

ASAE   -   AMERICAN-STANDARD ATOMIC ENERGY DIVISION
            MOUNTAIN VIEW, CALIFORNIA

    ASAE-34   DECEMBER 1959   RBU
            RBU - CALCULATION OF REACTOR HISTORY INCLUDING THE
            DETAILS OF ISOTOPIC CONCENTRATION, PART I THE METHOD
            BY E. J. LESHAN, J. R. BURR, R. MORRISON, M. TEMME,
            G. T. THOMPSON, AND J. R. TRIPLETT
            IBM 7C9

ATL   -   ADVANCED TECHNOLOGY LABORATORIES
            MOUNTAIN VIEW, CALIFORNIA

    ATL-A-1C1   SEPTEMBER 1959   RBU
            RBU - A COMBINED MONTE CARLO REACTOR BURNUP PROGRAM
            FOR THE IBM 709
            BY E. J. LESHAN, J. R. BURR, R. MORRISON, M. TEMME,
            G. T. THOMPSON, AND J. R. TRIPLETT

AWRE   -   UK-AEA-ALDERMASTON
            BERKSHIRE, ENGLAND

    AWRE O-1/61   AUGUST 1961   CANDY
            MACHINE PRODUCTION OF GROUP CROSS-SECTIONS FOR USE IN
            CARLSCN SN AND OTHER MULTIGROUP NEUTRONICS CALCULATIONS
            ON HIGH SPEED COMPUTER
            EDITED BY K. PARKER

AWRE O-12/63   SEPTEMBER 1963   STRAINT
SOLUTION OF THE ONE DIMENSIONAL MULTIGROUP STATIONARY
NEUTRON TRANSPORT EQUATION ON THE IBM 7030 (STRETCH)
COMPUTER
EDITED BY R. D. WADE

AWRE O-66/63   APRIL 1964   TURTLE
SOLUTION OF THE TWO-DIMENSIONAL AXIALLY SYMMETRIC MULTI-
GROUP STATIONARY NEUTRON TRANSPORT EQUATION ON THE IBM
7C30 (STRETCH) COMPUTER
BY M. P. SAWARD AND R. D. WADE

AWRE O-97/64   MARCH 1965   INPUT
THE CALCULATION OF GROUP AVERAGED NEUTRON CROSS SECTIONS-
GALAXY 3 FACILITIES
BY W. M. M. KERR, K. PARKER, AND D. V. J. WILLIAMS
AVAILABLE IN S2(FORTRAN) LANGUAGE FOR THE IBM-7030
(STRETCH) COMPUTER

BNL   -   BROOKHAVEN NATIONAL LABORATORY
           UPTON, NEW YORK

BNL-8711 (MF)   DECEMBER 1964   STRENGTH
A PROGRAM FOR STRENGTH FUNCTION ANALYSIS
BY R. E. CHRIEN
FORTRAN FOR IBM 7094

BNWL   -   BATTELLE NORTHWEST LABORATORY
           RICHLAND, WASHINGTON
           (SEE ALSO HW)

BNWL-3   DECEMBER 1964   HISMC
A MONTE CARLO STUDY OF HOMOGENEOUS PLUTONIUM AND URANIUM
MIXTURES
BY L. L. CARTER AND C. R. RITCHEY
FORTRAN II FOR IBM-7090

BNWL-35   MARCH 1965   GAMTEC II
A CODE FOR GENERATING CONSISTENT MULTIGROUP CONSTANTS
UTILIZED IN DIFFUSION AND TRANSPORT THEORY CALCULATIONS
BY L. L. CARTER, C. R. RICHEY, AND C. E. HUGHEY
FORTRAN II FOR IBM-7090

BRL   -   BALLISTIC RESEARCH LABORATORIES
            ABERDEEN PROVING GROUND, MARYLAND

    BRL-1223   OCTOBER 1963   GRATIS
        GRATIS - A MONTE CARLO COMPUTER PROGRAM FOR CALCULATING
        TRANSMISSION INFORMATION FOR SECONDARY GAMMA RADIATION
        BY ALFRED J. BUDKA
        BRLESC COMPUTER

CANEL -   PRATT AND WHITNEY AIRCRAFT
           MIDDLETOWN, CONNECTICUT

    CANEL-TIM-792   DECEMBER 1963   DSN
        USE OF DSN CODE FOR NEUTRON SHIELDING CALCULATIONS
        BY A. R. LARSON.
        FLOCO II

    CANEL-TIM-799   JANUARY 1964   SCARF
        SCARF - A NEUTRON SCATTERING CODE FOR SNAP TYPE RADIATORS
        BY W. GRANTER
        FORTRAN II.

    CANEL-TIM-806   FEBRUARY 1964   LUX, GAD, STEM
                                                    NEAT
        MONTE CARLO DATA PREPARATION CODES
        BY E. E. KINNEY
        FORTRAN 63 FOR CDC 1604

    CANEL-TIM-807   JULY 1965   WOP
        THE REACTOR WEIGHT OPTIMIZATION PARAMETIC CODE
        BY R. W. FISH AND R. E. KILLEN
        FORTRAN 63, CDC-1604

    CANEL-TIM-829   NOVEMBER 1964   STERNO
        A TWO-DIMENSIONAL, GAMMA-HEATING CODE
        BY C. E. KELLER
        FORTRAN 63 FOR CDC-1604

    CANEL-TIM-941   JULY 1965   FMC
        MONTE CARLO CODES, FMC-N AND FMC-G
        BY E. E. KINNEY
        FORTRAN 63 FOR CDC 1604

CANEL-TIM-951   AUGUST 1965   AX-TNT
A CODE FOR THE INVESTIGATION OF REACTOR EXCURSIONS
AND BLAST WAVES FROM A SPHERICAL CHARGE
BY C. J. ANDERSON
FORTRAN 63

PWAC-452   AUGUST 1965   TDC
THE TDC CODE
BY W. J. FADER, R. J. RODGERS, F. R. MYNATT, AND
R. E. LAWRENCE
FLOCO II FOR IBM-7090

CEA   -   COMMISSARIAT A L-ENERGIE
SACLAY, FRANCE

CEA-R2614   1965   NUINT
THEORETICAL ASPECTS OF NEUTRON INTERACTION
BY JEAN MORET-BAILLY, F. PENET, AND J. C. SPINELLI
FORTRAN, FAP FOR IBM 7094

CEA-R-2747 (MF)   FEBRUARY 1965   ALCI
SPECIFICATIONS FOR A MULTI-GROUP SCATTERING CODE OF
TWO DIMENSIONS ALCI
BY JEAN-PAUL BAYARD, ANDRE GUILLOU, BERNARD LAGO,
MARIE-JOSEPHE BUREAU DU COLOMBIER, GINETTE GUILLOU,
AND CHANTAL VASSEUR

CONVAIR- A DIVISION OF GENERAL DYNAMICS CORPORATION
FORT WORTH, TEXAS
(SEE ALSO FZK AND NARF)

MR-E-240   DECEMBER 1958   D-34
18 GROUP - 3 REGION REACTOR EVALUATION (IBM 704 PRO-
CEDURE D34)
BY M. K. HULLINGS AND G. P. OWEN

CRRP   -   ATOMIC ENERGY OF CANADA LIMITED (SEE AECL)
          CHALK RIVER, ONTARIO, CANADA

CRRP-1127 (AECL-1678)   DECEMBER 1962   NEREM, GAY,
                                              ONEUT
      BENDIX G-20 COMPUTER PROGRAMS FOR USE IN REACTOR SHIELD
      DESIGN
      BY A. G. FOWLER

CRRP-1151   JULY 1963   XENOSC
      (AECL-1803)
      A G-20 PROGRAM FOR STUDYING XENON SPATIAL OSCILLATIONS AND
      APPLICATION TO CANDU
      BY R. M. PEARCE AND R. E. ROTH

CVNA   -   CAROLINAS VIRGINIA NUCLEAR POWER ASSOCIATES, INC.
          COLUMBIA, S. C.

CVNA-146 - I-II   OCTOBER 1962   NDC
      NDC - A FORTRAN PROGRAM FOR UNIT CELL NUCLEAR DESIGN
      CALCULATIONS FOR ROD-CLUSTERED PRESSURE-TUBE LATTICES,
      VOL. I. PROGRAM FORMULATION AND APPLICATION, VOL. II.
      PROGRAM COMPOSITION AND LISTING
      BY RAYMOND G. SAINT-PAUL AND SURENDRA A. RAJE

CWR   -   CURTISS-WRIGHT CORPORATION
          RESEARCH DIVISION
          QUEHANNA, PENNSYLVANIA

CWR-900-13-1   APRIL 1959   MAGNET I
      MONTE CARLO CALCULATIONS FOR NEUTRON AND GAMMA PARTICLE
      INTERACTIONS AND TRANSPORT IN ONE, TWO, AND THREE
      DIMENSIONAL NUCLEAR ASSEMBLIES
      BY W. J. ROBERTS, K. L. ROONEY, J. F. LOGUE, AND
      J. A. DEVRIES
      IBM 704

CWR-900-13-2   -   MAGNET II
      MONTE CARLO CALCULATIONS FOR NEUTRON AND GAMMA PARTICLE
      INTERACTIONS AND TRANSPORT IN ONE, TWO, AND THREE
      DIMENSIONAL NUCLEAR ASSEMBLIES - MAGNET II, PROGRAM FOR
      THREE DIMENSIONAL PLAQUE GEOMETRY (REVISED)
      BY J. F. LOGUE, W. J. ROBERTS, K. L. ROONEY, AND
      J. A. DEVRIES
      IBM 704

D   -   THE BOEING COMPANY
         SEATTLE 24, WASHINGTON

   D2-90418-1   SPARES
      GENERAL PROCEDURE. SPACE RADIATION ENVIRONMENT AND
      SHIELDING CODES, VOL. I
      BY BOEING STAFF MEMBERS
      FORTRAN FOR IBM 7090

   D2-90418-2   SPARES
      VAN ALLEN RADIATION
      BY BOEING STAFF MEMBERS
      FORTRAN FOR IBM-7090

   D2-90418-3   SPARES
      APOLLO SECTOR ANALYSIS
      BY BOEING STAFF MEMBERS
      FORTRAN FOR IBM-7090

   D2-90418-6   SPARES
      ELECTRON TRANSMISSION
      BY BOEING STAFF MEMBERS
      FORTRAN FOR IBM-7090

   D2-90684-1   APRIL 1965   SPARES
      SLIDES USED IN SYMPOSIUM ON SPACE RADIATION ENVIRONMENT AND
      SHIELDING CODES

DC   -   SEE XDC

DEP/SEPP DEPARTMENT DES ETUDES DE PILES
         SERVICE D-ETUDES DE PROTECTIONS DE PILES
         CENTRE D-ETUDES NUCLEAIRES DE FONTENAY-AUX-ROSES
         FRANCE

   DEP/SEPP 246/62   DECEMBER 1962   MANON
                                              CARMEN
      UTILISATION PRATIQUE DES PROGRAMMES MANON 749/8 ET
      CARMEN/868
      BY J. P. BARTHE
      FERRANTI MERCURY COMPUTER - FRENCH LANGUAGE

DP   -   SAVANNAH RIVER LABORATORY
          AIKEN, SOUTH CAROLINA
          (OPERATED FOR USAEC BY E. I. DUPONT DE NEMOURS AND CO.)

    DP-804   -   UNCLE IV
                                                         AXIAL UNCLE
        TWO FORTRAN CODES (IBM-704) TO OBTAIN 1-DIM. SOLUTIONS
        OF THE STEADY-STATE NEUTRON-DIFFUSION EQUATION IN A
        CYLINDRICAL REACTOR (APPENDIX)

    DP-938   MAY 1965   3D-HEXLAX
        A COMPUTER CODE FOR ONE-GROUP FLUX CALCULATICNS IN THREE
        DIMENSIONS
        BY J. C. ENGLISH
        FORTRAN FOR IBM-704

    DP-IAEA-TR-20   FEBRUARY 1963   BSQ
        AN IBM-704 CODE TO CALCULATE HEAVY WATER LATTICE PARAMETERS
        BY F. E. DRIGGERS
        FORTRAN

DP-REPORT-NO.   DRAGON PROJECT REPORTS
                SEE AEEW

DTMB   -   DAVID TAYLOR MODEL BASIN
           APPLIED MATHEMATICS LABORATORY
           WASHINGTON, D. C.

    DTMB-1820   JULY 1965   TET 2
        A THERMAL ENERGY TRANSPORT CODE
        BY CHARLES DAWSON AND PHILIP E. BATTEY
        FORTRAN FOR IBM 7090

EAD   - AEROJET-GENERAL NUCLEONICS
             SAN RAMON, CALIFORNIA

    EAD-103   DECEMBER 1963   FAIL
        FALLOUT AREA INTENSITY LEVELS CODE
        BY J. K. WITTHAUS
        FORTRAN FOR IBM-7090 AND -7094

    EAD-119   FEBRUARY 1964   G-33
        (AN-COMP-196)
        G-33, CODE FOR COMPUTING GAMMA RAY SCATTERING
        BY G. H. ANNO AND J. K. WITTHAUS
        FORTRAN FOR IBM-7090, 7094

    EAD-140   MARCH 1964   QAD-PR
        (AN-COMP-197)
        A PROGRAM USED TO COMPUTE FAST NEUTRON AND GAMMA RAY
        PENETRATION THROUGH SHIELDING ASSEMBLIES AND MATERIALS
        BY J. K. WITTHAUS
        FORTRAN FOR IBM-7090 AND 7094

ER   - LOCKHEED-GEORGIA COMPANY
             MARIETTA, GEORGIA

    ER-6643   JANUARY 1964   LPPC
                                             LEBC
                                           MSGAM
        COMPUTER PROGRAMS FOR SHIELDING PROBLEMS IN MANNED SPACE
        VEHICLES
        BY C. W. HILL, C. C. DOUGLAS, JR., W. B. RITCHIE AND
        K. M. SIMPSON, JR.
        FORTRAN, IBM-7090, -7094

    ER-6906   MAY 1964   FPIC
        A FISSION PRODUCT INVENTORY CODE
        BY K. O. KOEBBERLING, W. E. KRULL, AND J. H. WILSON
        FORTRAN FOR IBM-7090 AND 7094

    ER-7777 (VOL. I)   AUGUST 1965   LRSPC
        DATA COMPILATION AND EVALUATION OF SPACE SHIELDING
        PROBLEMS, VOL. I, RANGE AND STOPPING POWER DATA
        BY C. W. HILL, W. B. RITCHIE AND K. M. SIMPSON, JR.
        FORTRAN, IBM-7090, -7094

ER-7777 (VOL. II)　　　　　AUGUST 1965　　　　　LMFC
　　　　　　　　　　　　　　　　　　　　　　　　　SVDC
　　　　DATA COMPILATION AND EVALUATION OF SPACE SHIELDING
　　　　PROBLEMS, VOL. II, DOSE CALCULATIONS IN SPACE VEHICLES
　　　　BY C. W. HILL, W. B. RITCHIE, AND K. M. SIMPSON, JR.
　　　　FORTRAN AND FAP, IBM-7090, -7094

EUR　　-　EURATOM - EUROPEAN ATOMIC ENERGY COMMUNITY
　　　　　ISPRA ESTABLISHMENT, ITALY

　　EUR-2103.E (MF)　　　　　1964　　　　　COSTANZA
　　　　A NUMERICAL CODE FOR THE STUDY OF THE REACTOR SPATIAL
　　　　DYNAMICS IN TWO GROUPS
　　　　BY E. VINCENTI, R. MONTEROSO, AND A. AGAZZI

　　EUR-2104.E (MF)　　　　　1964　　　　　COSTANZ
　　　　THE CODE COSTANZA
　　　　BY A. AGAZZI, E. VINCENT, AND R. MONTEROSSO
　　　　FORTRAN II AND CALCOMP FOR IBM 7090

　　EUR 2152.E　　　　　1964　　　　　MAC-RAD
　　　　A REACTOR SHIELDING CODE--THE REVISED AND DEVELOPED
　　　　EDITION OF MAC
　　　　BY U. CANALI, H. ILSEMANN, C. PONTI, AND H. PREUSCH
　　　　FORTRAN FOR IBM-7090

　　EUR-2162.E (MF)　　　　　1964　　　　　CRE
　　　　AN IBM 7090 CODE FOR THE DETERMINATION OF REACTIVITY
　　　　CHANGES AND FLUX SHAPE DUE TO CONTROL ROD INSERTION
　　　　IN A REACTOR
　　　　BY B. DORPEMA, C. MONGINI-TAMAGNINI, AND C. PONTI

　　EUR 2204.I　　　　　JANUARY 1965　　　　　GAMMONE
　　　　PROGRAM FOR GAMMA-RAY ATTENUATION THROUGH MULTILAYER
　　　　COMPOSITE SHIELDS
　　　　PART 1.　MATHEMATICAL BASES OF THE PROGRAM
　　　　BY L. CRISCUOLO
　　　　PART 2.　CODING OF THE PROGRAM
　　　　BY L. CRISCUOLO AND M. G. CERISOLA
　　　　FORTRAN FOR IBM-704

　　EUR-2294.E　　　　　1965　　　　　FIRST I
　　　　IBM 7090 FORTRAN II CODE FOR THE CALCULATION OF A NEUTRON
　　　　SPECTRUM FOR A HETEROGENEOUS LATTICE
　　　　BY H. TAKAHASHI AND H. DEWALDE
　　　　FORTRAN FOR IBM 7090

FOA — FORSVARETS FORSKNINGSANSTALT
RESEARCH INSTITUTE OF NATIONAL DEFENSE
STOCKHOLM, SWEDEN

FOA-4 A-44C3-411   NOVEMBER 1964   SALOMON
A USERS MANUAL FOR SALOMCN, AN IBM 7090 CODE FOR GAMMA
TRANSPORT CALCULATIONS
BY G. ENGSTROM
FORTRAN FOR IBM 7090

FOA-4 A-4411-411   JANUARY 1965   PROTOS
A MONTE CARLO PROCEDURE FOR CALCULATING THE MIGRATION OF
PROTONS TAKING ACCOUNT ONLY OF ELECTROMAGNETIC INTERACTIONS
BY C. JOHANSSON AND M. LEIMDORFER
FORTRAN II FOR IBM-7090

FOA-4 A-4436-411   JULY 1965   PROTOS
PROGRAM DESCRIPTION AND USERS MANUAL FOR PROTOS, A COMPUTER
PROGRAM FOR TREATING PROTON SLOWING DOWN DUE TO ATOMIC
COLLISIONS
BY C. JOHANSSON
FORTRAN II FOR IBM-7090

FZK — SEE NARF AND CONVAIR

GA — GENERAL ATOMIC, DIVISION OF GENERAL DYNAMICS
SAN DIEGO, CALIFORNIA

GA-3152   AUGUST 1962   GAZE-2
GAZE-2, A ONE-DIMENSIONAL, MULTIGROUP, NEUTRON DIFFUSION
THEORY CODE FOR THE IBM-7090
BY S. R. LENIHAN

GA-4132   JULY 1963   GATHER II
GATHER-II — AN IBM-7090 FORTRAN II PROGRAM FOR THE COMPU-
TATION OF THERMAL-NEUTRON SPECTRA AND ASSOCIATED MULTIGROUP
CROSS SECTIONS
BY G. D. JOANOU, C. V. SMITH, AND H. A. VIEWEG

GA-4246   JUNE 1963   GAMBLE
    GAMBLE - A PROGRAM FOR THE SOLUTION OF THE MULTIGROUP
    NEUTRON-DIFFUSION EQUATIONS IN TWO DIMENSICNS, WITH
    ARBITRARY GROUP SCATTERING, FOR THE IBM-7090 FORTRAN II
    SYSTEM
    BY J. P. DORSEY

GA-4265   SEPTEMBER 1963   GAM II
    GAM-II, A B3 CODE FOR THE CALCULATION OF FAST-NEUTRON
    SPECTRA AND ASSOCIATED MULTIGROUP CONSTANTS
    BY G. D. JOANOU AND J. S. DUDEK
    IBM 7C90

GA-4436   DECEMBER 1963   GGC II
    GGC-II A PROGRAM FOR USING THE GAM-II AND GATHER-II
    SPECTRUM CODES IN PREPARING MULTIGROUP CROSS-SECTION
    INPUT ON PUNCHED CARDS FOR THE GAZE, GAZED, DSN, GAPLSN,
    2DXY, TDC, GAMBLE, FEVER AND GAD CODES
    BY C. V. SMITH AND H. A. VIEWEG
    IBM 7C90

GA-4972   MARCH 1964   GAPLSN
    GAPLSN - A MODIFIED DSN PROGRAM FOR THE SOLUTION OF THE
    CNE-DIMENSIONAL ANISOTROPIC TRANSPORT EQUATION
    BY J. H. ALEXANDER, G. W. HINMAN, AND J. R. TRIPLETT
    IBM 7C90

GA-5418 (MF)   JULY 1964   CAP
    A COLLIMATOR ANALYSIS PROGRAM
    BY HENRY C. HONECK
    FORTRAN

GA-6C96   DECEMBER 1964   HEXSCAT
                                                           GASKET
    QUARTERLY PROGRESS REPORT FOR THE PERIOD ENCING DECEMBER 31,
    1964
    BY J. R. BEYSTER, ET AL.

GA-6685 (MF)   SEPTEMBER 1965   UNPACK
    A NEUTRON CROSS SECTION DATA RETRIEVAL PROGRAM
    BY C. V. SMITH AND M. K. DRAKE
    FORTRAN IV AND MAP FOR IBM 7044

GAMD-2610   NCVEMBER 1961   DSN
    A NEW VERSION OF DSN
    BY J. H. ALEXANDER
    IBM 7C90

GAMD-2797   MARCH 1962   DDB
    DDB - A TWO DIMENSIONAL REACTOR DIFFUSION CODE WITH CRITI-
    CALITY SEARCH AND BURNOUT OPTIONS, VOLUME I
    BY J. H. ALEXANDER, C. CYL-CHAMPLIN, J. E. GRATTEAU,
    P. C. KAESTNER, E. J. LESHAN, W. A. GROWDON, AND
    M. H. MERRILL

GAMD-5239 (MF)   NOVEMBER 1964   PIZZA
    AN IBM COMPUTER CODE FOR THE PLANE STRESS ANALYSIS OF
    TWO DIMENSIONAL BODIES, INPUT INSTRUCTIONS
    BY D. C. CORNELL
    FORTRAN FOR IBM 7044

GAMD-6644 (MF)   AUGUST 1965   BLOOST-5
    BLOOST-5 - A COMBINED REACTOR KINETICS-HEAT TRANSFER CODE
    FOR THE IBM-7044. PRELIMINARY DESCRIPTION
    BY M. MERRILL
    FORTRAN IV

GAMD   -   SEE GA

GEAP   -   GENERAL ELECTRIC COMPANY
           ATOMIC POWER EQUIPMENT DEPARTMENT
           SAN JOSE, CALIFORNIA

GEAP-4772 (MF)   JANUARY 1965   DARE
    EVESR-NUCLEAR SUPERHEAT FUEL DEVELOPMENT PROJECT. DARE
    CODE FOR THE THERMAL HYDRAULIC FUEL PERFORMANCE EVALUATION
    BY B. G. ATRAZ

GEMP   -   SEE XDC

GNE   -   AIR FORCE INSTITUTE OF TECHNOLOGY
           WRIGHT-PATTERSON AFB, OHIO

GNE-PHYS-64-7 (MF)   AUGUST 1964   THESIS
    THEORETICAL CALCULATION OF NEUTRON AGE
    BY ROBERT HANS HANSEN
    IBM 1620

HW   -   HANFORD ATOMIC PRODUCTS OPERATION
            RICHLAND, WASHINGTON
            (SEE ALSO BNWL)

HW-73381   APRIL 1962   MAC
     MAC - A BULK SHIELDING CODE
     BY E. G. PETERSON
     IBM 7090

HW-73381 SUP.1   JANUARY 1964   MAC X-SECTS
     TWO CROSS SECTION LIBRARIES FOR USE WITH MAC SHIELDING CODE
     BY J. GREENBORG

HW-80246 (MF)   FEBRUARY 1964   MIDAS
     A SIMPLIFIED METHOD FOR PROGRAMMING A 7090 CCMPUTER FOR
     SIMULATION OF DYNAMIC SYSTEMS
     BY R. D. BENHAM
     IBM 7090

HW-80968 (MF)   MARCH 1964   HFN
                                          CALX
     USERS MANUAL FOR HFN AND CALX CHAIN
     BY E. L. KELLEY, JR.
     IBM 7090

HW-83784   SEPTEMBER 1964   BREMRAD
     A COMPUTER CODE FOR EXTERNAL AND INTERNAL BREMSSTRAHLUNG
     CALCULATIONS
     BY H. H. VAN TUYL
     FORTRAN II, IBM 7090

HW-83785   SEPTEMBER 1964   ISOGEN
     ISOGEN - A COMPUTER CODE FOR RADIOISOTOPE GENERATION
     CALCULATIONS
     BY H. H. VAN TUYL

HW-SA-3769   OCTOBER 1964   ISOGEN
     RADIONUCLIDE GENERAL CALCULATIONS
     BY H. H. VAN TUYL
     FORTRAN FOR IBM 7090

IDO   -   PHILLIPS PETROLEUM
            USAEC, IDAHO OPERATIONS OFFICE
            IDAHO FALLS, IDAHO

IDO-16856   MAY 1963   MIST
    (INTERNUC-67)
    A MULTIGROUP INTERNUCLEAR SLAB TRANSPORT CODE
    BY G. E. PUTNAM AND D. M. SHAPIRO
    FORTRAN FOR IBM-7090

IDO-16968   APRIL 1964   TOPIC
    TOPIC - A FORTRAN PROGRAM FOR CALCULATING TRANSPORT OF
    PARTICLES IN CYLINDERS
    BY G. E. PUTNAM

IDO-16984   JULY 1964   NS X-SECT
    A MACHINE PROGRAM FOR CALCULATING SLOW NEUTRON SCATTERING
    CROSS SECTIONS WITH APPLICATION TO WATER
    BY H. L. MCMURRY AND L. J. GANNON

IDO-17C75   SEPTEMBER 1965   CEP
    A MONTE CARLO PROGRAM FOR THE CALCULATION OF FIRST-FLIGHT
    ESCAPE PROBABILITIES FOR FINITE CYLINDERS
    BY W. K. FOELL, C. W. BERNER, AND S. TONG
    MAP FOR IBM-7040

IDO-24467 APPENDICES   DECEMBER 1963   DER-029
                                                      DER-074
                                                    DER-006A
                                                     DER-013

    SECONDARY GAMMA, BASIC GECMETRY, FISSION PRODUCT BUILCUP
    AND DECAY AND POINT SOURCE SUMMATION CODES
    BY J. O. HOWARD AND G. M. JACKS

ISS   -   ISTITUTO SUPERIORE DI SANITA, LABORATORI DI FISICA
            ROMA, ITALIA

ISS-64/21   JUNE 1964   ARIEL
    (ORNL-TR-624)
    THE ARIEL PROGRAM FOR THE STUDY OF PHOTOPRODUCTION
    REACTIONS IN HYDROGEN
    BY G. FARCHI AND P. LANCIANI
    FORTRAN IV FOR IBM-7040

JAERI - JAPAN ATOMIC ENERGY RESEARCH INSTITUTE
TOKAI RESEARCH ESTABLISHMENT

JAERI-1082   FEBRUARY 1965   KPARAM
MULTIGROUP CALCULATIONS OF KINETICS PARAMETERS IN
FAST REACTORS
BY KINICHI MORIGUCHI AND TOMOO SUZUKI
FORTRAN II, IBM 7090 AND FORTRAN IV, IBM 7044

K   -   SEE UCC

KAPL   -   KNOLLS ATOMIC POWER LABORATORY
SCHENECTADY, NEW YORK
(OPERATED FOR USAEC BY GENERAL ELECTRIC CO.)

KAPL-1549   AUGUST 1956   TRIXY
TRIXY - A COMPUTER PROGRAM FOR MULTIGROUP NUCLEAR REACTOR
CALCULATIONS IN THREE-SPACE DIMENSIONS
BY P. GREEBLER

KAPL-1724   APRIL 1957   CURE
CURE - A GENERALIZED TWO-SPACE-DIMENSION MULTIGROUP
CODING FOR THE IBM-704
BY E. L. WACHSPRESS

KAPL-2039   JUNE 1959   TRAM
TRAM, A MONTE CARLO THERMAL NEUTRON CODE FOR THE IBM 704
BY M. A. MARTINO AND W. W. STONE

KAPL-2225   SEPTEMBER 1962   KERNEL
                                                       PAM
PROGRAMS FOR USE IN THE CALCULATION OF THE THERMAL
SCATTERING MATRIX FOR CHEMICALLY BOUND SYSTEMS
BY F. D. FEDERIGHI AND D. T. GOLDMAN
FORTRAN AND ALTAC FOR PHILCO 2000

KAPL-3013   JUNE 1964   DRAM
A MONTE CARLO PROGRAM FOR THE CALCULATION OF CAPTURE PROB-
ABILITIES
BY G. J. HABETTER, R. A. PFEIFFER, AND J. E. TUECKE
ALTAC AND TAC FOR THE PHILCO 2000

KAPL-M-6119   FEBRUARY 1964   FICS
    FICS, A PROGRAM TO COMPUTE FEW-GROUP CONSTANTS WITHIN
    THE KARE DIFFUSION THEORY SYSTEM
    BY D. E. GOODMAN

KAPL-M-6159   MAY 1964   SOSH I
    SOSH I - A COMPUTER PROGRAM FOR SHIELDING CALCULATIONS
    BY M. S. PENDERGAST, JR.

KAPL-M-6160 (MSP-4)   MAY 1964   SOSH II
    SOSH II - A COMPUTER PROGRAM FOR SHIELDING CALCULATIONS
    (A REVISION AND EXTENSION OF SOSH I)
    BY M. S. PENDERGAST, JR.

KAPL-M-6174 (MF)   JULY 1964   MOST
    A MULTIDIMENSIONAL OPTIMIZATION SCHEME
    BY C. R. LUBITZ AND G. A. SHANHOLT
    FORTRAN

KAPL-M-6185 (MF)   JULY 1964   HOTSTICK
    KARE AXIAL POWER DISTRIBUTION PROGRAM FOR THE PHILCO 2000
    BY D. E. GOODMAN
    PHILCO 2000

KAPL-M-6420 (MF)   DECEMBER 1964   ETC4A
    A ONE DIMENSIONAL MONOENERGETIC TRANSPORT PROGRAM
    (REVISION II)
    BY E. I. BROOKS, JR., C. W. DAWSON AND T. E. DUDLEY

KAPL-M-6424 (MF)   NOVEMBER 1964   MULE
    A PROGRAM FOR MULTI-LEVEL, MULTI-CHANNEL CALCULATION OF
    NEUTRON CROSS SECTIONS WITH DOPPLER AND RESOLUTION
    BROADENING
    BY E. J. BROOKS, JR. AND E. L. SLAGGIE

KAPL-M-6430 (MF)   NOVEMBER 1964   OSCAR
    A PILE OSCILLATOR DATA REDUCTION PROGRAM FOR THE PHILCO
    2000 DIGITAL COMPUTER
    BY J. N. BRAZOS, B. A. GOTTSCHALK, AND A. L. LIEDEL
    FORTRAN FOR IBM 704 AND PHILCO S-2000

KAPL-M-FDF-2   NOVEMBER 1962   SWAKRAUM
    SWAKRAUM - A SPATIALLY DEPENDENT THERMAL SPECTRUM CODE
    FOR THE PHILCO-2000
    BY F. D. FEDERIGHI

KAPL-M-GES-4   MAY 1962   GAM I
    GAM I - A GAMMA CROSS SECTION CODE FOR THE PHILCO
    TRANSAC S-2000
    BY G. E. SABIAN

KDP   -   SEE UCC

KN   -   KAMAN NUCLEAR
               COLORADO SPRINGS, COLORADO

     KN-63-76(R)   JUNE 1963   TGRMM
               A FORTRAN PROGRAM FOR THE CALCULATION OF THE TRANSPORT
               OF GAMMA RAYS BY THE METHOD OF MOMENTS
               BY RICHARD E. VOGEL
               IBM 1620

KOA   -   SEE UCC

KR   -   INSTITUTT FOR ATOMENERGI
               KJELLER RESEARCH ESTABLISHMENT
               KJELLER, NORWAY

     KR-71   JUNE 1964   K-7 TRANSPO
               ONE GROUP NEUTRON TRANSPORT IN A HETEROGENEOUS CYLINDRI-
               CALLY SYMMETRIC REACTOR CELL
               BY R. J. J. STAMMLER

LA   -   SEE LAMS

LAMS - LOS ALAMOS SCIENTIFIC LABORATORY
LOS ALAMOS, NEW MEXICO
(OPERATED FOR THE USAEC BY THE UNIVERSITY OF CALIFORNIA)

LA-2161   MARCH 1957   FIRE
A ONE DIMENSIONAL INTERMEDIATE REACTOR COMPUTING
PROGRAM
BY C. B. MILLS AND F. BRINKLEY

LA-3264-MS   MARCH 1965   RATH
RATH THERMAL ANALYSIS PROGRAMS
BY R. F. THOMAS, JR. AND M. D. J. ROBERTS
FORTRAN FOR IBM-7030, -7094

LA-3267   APRIL 1965   GAMLEG
A FORTRAN CODE TO PRODUCE MULTIGROUP CROSS SECTIONS FOR
PHOTON TRANSPORT CALCULATIONS
BY K. D. LATHROP
FORTRAN FOR IBM-7030

LA-3373   JULY 1965   DTF-IV
DTF-IV, A FORTRAN-IV PROGRAM FOR SOLVING THE MULTIGROUP
TRANSPORT EQUATION WITH ANISOTROPIC SCATTERING
BY K. D. LATHROP
FORTRAN IV FOR IBM 7030 AND 7090

LAMS-2339   AUGUST 1959   FLOCO II
FLOCO II MANUAL
BY B. CARLSON, C. S. KAZEK, JR., AND C. LEE

LAMS-2346   OCTOBER 1959   DSN, TDC
THE DSN AND TDC NEUTRON TRANSPORT CODES
BY B. CARLSON, C. LEE, AND J. WORLTON

LAMS-2346-APPENDIX I   OCTOBER 1959   DSN
THE DSN CODE
BY B. CARLSON, C. LEE, AND J. WORLTON

LAMS-2346-APPENDIX II   OCTOBER 1959   TDC
THE TDC CODE
BY B. CARLSON, C. LEE, AND J. WORLTON

LAMS-2856   MARCH 1963   MCS
A GENERAL MONTE CARLO NEUTRONICS CODE
BY ROBERT R. JOHNSTON
IBM 7090

ML — AIR FORCE MATERIALS LABORATORY
RESEARCH AND TECHNOLOGY DIVISION
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

ML-TDR-64-52   APRIL 1964   FANTASIA II
                                                       TRIPOD II
    FANTASIA II AND TRIPOD II — SHIELDING CODES FOR THE
    IBM 7090
    BY HERBERT A. STEINBERG, J. HEITNER, AND R. ARONSON

MND — MARTIN NUCLEAR DIVISION
BALTIMORE, MARYLAND

MND-3200   MARCH 1965   ALTRAN
    AN IBM-7094 TRANSLATOR FOR PHILCO-2000 SERIES CODES
    BY T. M. OLSEN
    FORTRAN II AND FAP FOR IBM-7094

MND-C-2500-2   MARCH 1962   CELCOR
    APWRC-CELCOR, A FORTRAN-II PROGRAM FOR MULTIPLE LETHARGY
    LEVEL PI OR DSN CELL CORRECTIONS IN CYLINDRICAL, SPHERICAL
    AND ONE- OR TWO-DIMENSIONAL SLAB GEOMETRY
    BY G. A. CANNON AND T. M. OLSEN

MND-C-2500-3   MAY 1962   SYNFAR-02
    APWRC-SYNFAR-02, A PI AND DSN THEORY FORTRAN-II CODE
    FOR STATIC AND DYNAMIC SYNTHESIS OF TWO-DIMENSIONAL
    FLUX AND REACTIVITY
    BY T. M. OLSEN

MND-C-2500-4   JUNE 1962   SYBURN
    APWRC-SYBURN, A FORTRAN-II PROGRAM FOR SYNTHESIZED TWO-
    DIMENSIONAL PI OR DSN BURNUP CALCULATIONS
    BY E. A. COLBETH AND T. M. OLSEN

MND-C-2500-5   JUNE 1962   GAMICO
    APWRC-GAMICO, A MODIFICATICN OF GAM-I FOR APPLICATION
    TO THE ARMY PRESSURIZED WATER REACTOR CODE
    BY G. A. CANNON, R. S. HUBNER, AND T. M. OLSEN

MND-C-2500-6   JUNE 1962   APWRC X-SECT
    A PROGRAM AND CROSS-SECTION LIBRARY TAPE SYSTEM FOR THE
    ARMY PRESSURIZED WATER REACTOR CODE
    BY T. M. OLSEN

MND-C-2501   MAY 1961   CSDP
    APWRC--CSDP, A GENERALIZED FORTRAN II PROGRAM FOR
    AUTOMATED CROSS SECTION DATA REDUCTION AND ANALYSIS
    BY R. S. HUBNER

MND-MC-2856   JULY 1962   GMCM-9
    GENERALIZED MONTE CARLO PROGRAM FOR NEUTRONS
    BY M. KNIEDLER AND T. JORDAN.

MND-P-2726   MAY 1962   M-1
    SNAP PROGRAMS - M-1 MONTE CARLO RADIOISOTOPE SHIELDING
    CODE
    BY M. J. KNIEDLER

MPC   -   COMBUSTION ENGINEERING, INC., NUCLEAR DIVISION
           WINDSOR, CONNECTICUT

MPC-2D   SEPTEMBER 1959   CEPTR
    CEPTR - AN IBM-704 CODE TO SOLVE THE P-3 APPROXIMATION
    TO THE ONE-VELOCITY TRANSPORT EQUATION IN CYLINDRICAL
    GEOMETRY
    BY P. B. DAITCH, B. J. MCGOVERN, AND M. SCHILDER

MR   -   SEE CONVAIR, NARF, AND FZK

NAA   -   ATOMICS INTERNATIONAL
           DIVISION OF NORTH AMERICAN AVIATION, INC.
           CANOGA PARK, CALIFORNIA
           (SEE ALSO AI)

NAA-SR-3719   JUNE 1959   GRACE I
    GRACE I - AN IBM 704-709 PROGRAM DESIGNED FOR COMPUTING
    GAMMA-RAY ATTENUATION AND HEATING IN REACTOR SHIELDS
    BY D. S. DUNCAN AND A. B. SPEIR

NAA-SR-7357   JUNE 1962   TYCHE
     A MONTE CARLO SLOWING DOWN CODE
     BY R. A. BLAINE
     FORTRAN FOR IBM-7090

NAA-SR-8427   APRIL 1963   ANNEX I
     ANALYTIC TECHNIQUES FOR THE CALCULATION OF THE ORNL
     TOWER SHIELD EXPERIMENTS, PART I, ANNEX-I
     BY R. S. HUBNER
     FORTRAN

NAA-SR-8684   APRIL 1964   TYCHE
     THE AGE OF FISSION NEUTRONS TO INDIUM RESONANCE ENERGY
     IN GRAPHITE, PART II, THEORY
     BY HARRY ALTER
     FORTRAN FOR IBM 7090

NAA-SR-8884   JUNE 1965   CURIE
                                                           DOSE
                                                           THUNDERHEAD

     A DIGITAL COMPUTER PROGRAM FOR EXTERNAL AND INTERNAL
     RADIATION DOSE CALCULATIONS
     BY G. P. KENFIELD, W. R. LAHS, W. B. SAYER,
     R. M. MACADAMS, AND N. A. HARRIS
     FORTRAN FOR IBM-7094

NAA-SR-9190   APRIL 1964   SNAPKIN VI
     THE SNAPKIN VI COMPUTER PROGRAM FOR SNAP REACTOR KINETICS
     CALCULATIONS
     BY W. A. RHOADES

NAA-SR-9233   APRIL 1964   QUICKIE
     QUICKIE - A COMPUTER PROGRAM FOR SPATIALLY INDEPENDENT
     MULTIGROUP SLOWING-DOWN AND THERMALIZATION CALCULATIONS
     BY M. BOLING AND W. RHOADES

NAA-SR-9982   OCTOBER 1964   AISITE II
     A DIGITAL COMPUTER PROGRAM FOR INVESTIGATION OF REACTOR
     SITING, INCLUDING EXTERNAL RADIATION DOSE CALCULATIONS
     BY R. A. BLAINE AND E. L. BRAMBLETT
     FORTRAN II FOR IBM 7094

NAA-SR-10951   MARCH 1966   DTF-II
     A ONE-DIMENSIONAL, MULTIGROUP NEUTRON TRANSPORT PROGRAM
     BY W. W. ENGLE, M. A. BOLING, AND B. W. COLSTON
     FORTRAN II FOR IBM-7090

NAA-SR-11231   DECEMBER 1965   CHAD
     CODE TO HANDLE ANGULAR DATA
     BY R. F. BERLAND
     FORTRAN IV FOR IBM 7090 AND 7094

NAA-SR-MEMO-4649   NOVEMBER 1959   GRACE II
AN IBM 709 PROGRAM FOR COMPUTING GAMMA-RAY ATTENUATION
AND HEATING IN CYLINDRICAL AND SPHERICAL GEOMETRIES
BY D. S. DUNCAN AND A. B. SPEIR
FORTRAN FOR IBM 709 AND 7090

NAA-SR-MEMO-4822   MAY 1959   CLOUD
AN IBM 709 PROGRAM FOR COMPUTING GAMMA-RAY DOSE RATE FROM
A RADIOACTIVE CLOUD
BY D. S. DUNCAN, A. B. SPEIR, G. H. ANNO, AND D. C. KOLESAR
FORTRAN II FOR IBM-709

NAA-SR-MEMO-7776   OCTOBER 1962   SIG-CUM
SIG-CUM - A CODE TO TREAT ANISOTROPIC ELASTIC SCATTER-
ING OF NEUTRONS
BY F. D. RUDNICK AND H. J. LORENZI

NAA-SR-MEMO-8969   OCTOBER 1963   RATRAP
THE RATRAP CODE - A MODIFICATION OF THE FARSE METHOD
FOR SNAP SHIELD GEOMETRY
BY W. B. GREEN
FORTRAN

NAA-SR-MEMO-9069   OCTOBER 1963   AICRT 3
A GENERAL CODE FOR DISPLAY OF DIGITAL DATA
BY M. HOFFMAN AND W. A. RHOADES
FORTRAN II FOR IBM 7090

NAA-SR-MEMO-9202   NOVEMBER 1963   S4CGCC
S4 CYLINDRICAL GEOMETRY CELL CODE
BY J. S. TEMPLE AND R. A. BLAINE
FORTRAN, IBM 7090

NAA-SR-MEMO-9423   JANUARY 1964   CAESAR
CAESAR, A MULTIGROUP, ONE DIMENSIONAL DIFFUSION EQUATION
CODE WITH CROSS SECTION AVERAGING USING ENERGY SPECTRUM
WITH ARES FOR THE RESONANCE
BY DOROTHY C. BALLER

NAA-SR-MEMO-9721   APRIL 1964   ISRCH
A BINARY SEARCH FORTRAN FUNCTION SUBPROGRAM
BY R. A. BLAINE
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NAA-SR-MEMO-9802   MAY 1964   TYCHE III
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FORTRAN FOR IBM 7090

NAA-SR-MEMO-10008 (MF)   JUNE 1964   MALINDA
     MANIPULATION AND LISTING OF NUCLEAR DATA
     BY D. W. ROEDER
     FORTRAN II FOR IBM 7090 OR 7094

NAA-SR-MEMO-10421 (MF)   SEPTEMBER 1964   AVR
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     IN CYLINDRICAL REACTORS
     BY R. H. NORMAN, D. G. OLIVER, AND W. R. CASTLE

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     A PROGRAM TO PREPARE FAST GROUP CROSS SECTIONS IN THE
     DTF FORMAT
     BY R. S. HUBNER
     FORTRAN II FOR IBM 7090

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     DESCRIPTION OF THE CLUB COMPUTER CODE
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     FORTRAN AND FAP FOR IBM-7094

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  FORTRAN

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  FORTRAN

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NARF-61-33T   NOVEMBER 1961   L05
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  BY D. G. COLLINS.
  FAP

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     A MONTE CARLO MULTIBEND DUCT PROCEDURE
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FZK-200-5B   JUNE 1965   COMBINE (E20)
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    FORTRAN II FOR IBM 7090

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FZK-234   JUNE 1965   SPARC (E59)
    COMPUTER PROCEDURE. SLAB PENETRATION AND REFLECTION
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    COMPUTER PROCEDURE. COMBINE TRANSMISSION CALCULATION
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NASA 1—   NATICNAL AERONAUTICS AND SPACE ADMINISTRATION
            WASHINGTON, D.C.

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NASA 2—   NASA, GEORGE C. MARSHALL SPACE FLIGHT CENTER
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NASA 3—   NASA MANNED SPACECRAFT CENTER
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NASA 4-   NASA LEWIS RESEARCH CENTER
           CLEVELAND, OHIO

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           THE LEWIS PROTON SHIELDING CODE
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           FORTRAN IV FOR IBM 7094

NASA 5-   NASA LANGLEY RESEARCH CENTER
           HAMPTON, VIRGINIA

      NASA TN D-2659   MARCH 1965   SCOTT
           ELECTRON-BREMSSTRAHLUNG DIFFERENTIAL CROSS SECTIONS FOR
           THIN AND THICK TARGETS
           BY W. WAYNE SCOTT
           FORTRAN FOR IBM 7094

NDA   -   SEE UNC

NIJS   -   NUCLEAR INSTITUTE - JOZEF STEFAN
            LJUBLJANA, YUGOSLAVIJA

      NIJS-R-437   SEPTEMBER 1964   ATENN
           EXPERIMENTAL VERIFICATION OF A REMOVAL AGE-DIFFUSION
           MULTIGROUP PROGRAM IN A THERMAL COLUMN
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NSL   —   NORTHROP SPACE LABORATORIES
             HAWTHORNE, CALIFORNIA

    NSL 63-159   SEPTEMBER 1963   MAVRAC
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    NSL 63-63R-1   SEPTEMBER 1963   CARSTEP
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        SPACECRAFT
        BY M. R. MORRISON AND A. E. TATE
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NUC   —   NUCLEAR ENGINEERING DEPARTMENT
             PENNSYLVANIA STATE UNIVERSITY
             STATE COLLEGE, PENNSYLVANIA

    NUC E 11   SEPTEMBER 1962   HISPEC
        THE HISPEC MONTE CARLO PROGRAMS
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ORNL —   OAK RIDGE NATIONAL LABORATORY
             OAK RIDGE, TENNESSEE
             (OPERATED FOR THE USAEC BY UNION CARBIDE CORPORATION)

    ORNL-2789   SEPTEMBER 1961   CORNPONE
        A MULTIGROUP, MULTIREGION REACTOR CORE
        BY W. E. KINNEY AND R. R. COVEYOU
        ORACLE

    ORNL-2958   OCTOBER 1960   CRUNCH
        AN IBM-704 CODE FOR CALCULATING SUCCESSIVE FIRST ORDER
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        BY M. P. LIETZKE AND H. C. CLAIBORNE
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ORNL-3041   MARCH 1966   SDC
A SHIELDING-DESIGN CALCULATION CODE FOR FUEL-HANDLING
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BY E. D. ARNOLD AND B. F. MASKEWITZ
FORTRAN FOR IBM 7090

ORNL-3150   AUGUST 1961   WHIRLAWAY
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ORNL-3198   FEBRUARY 1962   NIGHTMARE
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HEATING IN CYLINDRICAL GEOMETRY
BY M. L. TOBIAS, D. R. VONDY, AND MARJORIE P. LIETZKE
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ORNL-3199   FEBRUARY 1962   EQUIPOISE-3
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ORNL-3200   FEBRUARY 1962   2D GRAND
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ORNL-3622   FEBRUARY 1965   O5R
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ORNL-3648   AUGUST 1964   MYRA
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    FORTRAN FOR CDC-1604 AND IBM-7090

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ORNL-3734   MARCH 1965   SANC
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    FORTRAN, IBM-7090

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    FORTRAN FOR CDC-1604

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OGRE, A MONTE CARLO SYSTEM FOR GAMMA-RAY TRANSPORT STUDIES,
INCLUDING AN EXAMPLE (OGRE-PI) FOR TRANSMISSION THROUGH
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FORTRAN II AND FAP FOR IBM-7090
FORTRAN 63 AND CODAP FOR CDC-1604

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FORTRAN 63, CDC-1604A

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A PROGRAM TO PREPARE A PORTION OF THE INPUT TO CODES GHT,
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ORNL-TM-168   MARCH 1962   SWAPS
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    A MONTE CARLO CALCULATION OF THE THREE-DIMENSIONAL DEVELOP-
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    NEUTRON THERMALIZATICN PROGRAMS FOR THE IBM 7090
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ORNL-TM-512   FEBRUARY 1963   AGS
    AGS, A 7090 COMPUTER PROGRAM FOR THE CALCULATION OF AVERAGE
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ORNL-TM-838   FEBRUARY 1964   KAY-CHAIN
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ORNL-TM-847   APRIL 1964   MERC-I
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    FORTRAN FOR IBM-7090

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    THE UNCOLLIDED FLUX ESTIMATOR APPLIED TO MONTE CARLO
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    BY J. WALLACE WEBSTER
    FORTRAN 63 FOR CDC-1604

ORNL-TM-1180   APRIL 1965   MUFFLE
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    FORTRAN IV FOR IBM 7090

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    FORTRAN FOR IBM-7090 AND CDC-1604

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    FORTRAN II AND FAP FOR IBM-7090
    FORTRAN 63 AND CODAP FOR CDC-1604

ORNL-TM-1241   NOVEMBER 1965   LEGENDRE
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    FORTRAN FOR IBM 7090

ORNL-TM-1245   AUGUST 1965   SPCTRM
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    FORTRAN FOR CDC 1604

PWAC   -   SEE CANEL

RP   -   SEE AAEC

RPI   -   RENSSELAER POLYTECHNIC INSTITUTE
           TROY, NEW YORK

    RPI-328-18 (MF)   NOVEMBER 1964   EXPAND
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        FORTRAN II FOR IBM 704 AND PHILCO 2000

RRA   -   RADIATION RESEARCH ASSOCIATES, INC.
           FORT WORTH, TEXAS

    RRA-N413   JULY 1964   RRA02
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    RRA-T44   MAY 1964   L05
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    RRA-T53   JUNE 1965   05R-SOURCE
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        FORTRAN 63 FOR CDC-1604A

SM   -   MISSILE AND SPACE SYSTEMS DIVISION
            DOUGLAS AIRCRAFT COMPANY, INC.
            SANTA MONICA, CALIFORNIA

     SM-43594   APRIL 1963   LIPRECAN I
        A MONTE CARLO PROGRAM FOR TWO DIMENSIONAL NEUTRON
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TID   -   TECHNICAL INFORMATION DIVISION
            AEC
            OAK RIDGE, TENNESSEE

     TID-21338   OCTOBER 1964   LOSS
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TO   -   TECHNICAL OPERATIONS RESEARCH
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     TO-B 63-73   OCTOBER 1963   TORG
        FINAL REPORT - MONTE CARLO CODES TO INVESTIGATE THE REFLEC-
        TION AND TRANSMISSION OF GAMMA RAYS AND NEUTRONS IN HOMO-
        GENEOUS AND HETEROGENEOUS SLABS, VOLUME I. GAMMA RAY CODE
        BY DOMINIC J. RASO AND SAMUEL S. HOLLAND
        FORTRAN

     TO-B 63-82   OCTOBER 1963   TORN
        FINAL REPORT - MONTE CARLO CODES TO INVESTIGATE THE REFLEC-
        TION AND TRANSMISSION OF GAMMA RAYS AND NEUTRONS IN HOMO-
        GENEOUS AND HETEROGENEOUS SLABS, VOLUME II. NEUTRON CODES
        BY DOMINIC J. RASO
        FORTRAN

TO-B 63-83   OCTOBER 1963   TORG, TORN
FINAL REPORT - MONTE CARLO CODES TO INVESTIGATE THE REFLEC-
TION AND TRANSMISSION OF GAMMA RAYS AND NEUTRONS IN HOMO-
GENEOUS AND HETEROGENEOUS SLABS, VOLUME III. RESULTS
BY DOMINIC J. RASO

TO-B 64-12   FEBRUARY 1964   DIPSEA
MONTE CARLO PROGRAM FOR CALCULATING DOSES RESULTING FROM
AN ISOTROPIC POINT SOURCE IN AN EXPONENTIAL ATMOSPHERE
BY DOMINIC J. RASO AND STANLEY WOOLF
FORTRAN

TRG   -   UK-AEA, THE REACTOR GROUP
           RISLEY, WARRINGTON, LANCASHIRE

TRG REPORT 229(R)   MARCH 1962   MDE-2D
A COMPUTER PROGRAM TO SOLVE THE MULTIGROUP DIFFUSION
EQUATIONS
BY A. HASSITT

TRG-REPORT-894 (MF)   JANUARY 1965   DISCOUNT D
AN IMPROVED VERSION OF THE COMPUTER PROGRAM FOR ECONOMIC
ASSESSMENT OF NUCLEAR POWER SYSTEMS
BY G. BLACK
FORTRAN II FOR IBM-7090

TRG-REPORT-902 (MF)   DECEMBER 1964   REVIEW
A REVIEW OF COMPUTER PROGRAMMES FOR SOLVENT EXTRACTION
CALCULATIONS
BY A. L. MILLS

TRG-REPORT-976(W)   JUNE 1965   ODYSSEUS
A TWO-GROUP TWO-DIMENSIONAL FUEL CYCLE COMPUTER PROGRAMME
SUITABLE FOR ADVANCED GAS-COOLED REACTORS
BY A. N. BUCKLER
FORTRAN II, IBM 7090

UCC   - UNION CARBIDE CORPORATION (NUCLEAR DIVISION - K-25)
OAK RIDGE, TENNESSEE

K-1520   SEPTEMBER 1962   MODRIC
MODRIC, A ONE DIMENSIONAL NEUTRON DIFFUSION CODE FOR THE IBM
7090
BY JAMES REPLOGLE

KDP-168   OCTOBER 1963   GAM-MOD-2
GAM-MOD-2, AN IBM 7090 NEUTRON CROSS SECTION PROGRAM
BY J. L. LUCIUS

KOA-1015   JUNE 1962   GAM-MOD
GAM-MOD AN IBM 7090 NEUTRON CROSS SECTION PROGRAM
BY J. L. LUCIUS AND G. E. WHITESIDES

UCRL   - LAWRENCE RADIATION LABORATORY
LIVERMORE, CALIFORNIA
(OPERATED FOR THE USAEC BY THE UNIVERSITY OF CALIFORNIA)

UCRL-5682   AUGUST 1959   ZOOM
9-ZOOM - A ONE-DIMENSIONAL, MULTIGROUP, NEUTRON DIFFUSION
THEORY REACTOR CODE FOR THE IBM 709, PARTS I, II, AND III
BY S. P. STONE, E. T. COLLINS, AND S. R. LENIHAN

UCRL-6076   OCTOBER 1960   ANGIE
9-ANGIE - A TWO-DIMENSIONAL, MULTIGROUP, NEUTRON-DIFFUSION-
THEORY REACTOR CODE FOR THE IBM 709 OR 7090
BY S. P. STONE

UCRL-6604   OCTOBER 1961   BANZAI
BANZAI, A ONE-DIMENSIONAL MULTIENERGY GROUP NEUTRON
TRANSPORT CODE FOR THE IBM 709 AND 7090 SYSTEMS
BY T. F. WALES AND R. N. STUART

UCRL-6795-T   FEBRUARY 1962   GHIS
A CALCULATIONAL METHOD TO DETERMINE GAMMA HEATING IN
INFINITE SOURCE MEDIA
BY ALEX LORENZ

UCRL-6798   NOVEMBER 1962   CONEC
CONEC - A COUPLED NEUTRONIC-ELASTICITY THEORY CODE AND
ITS APPLICATION TO PULSED, FAST REACTORS
BY O. C. KOLAR AND NORMAN PRUVOST

UCRL-6891   MAY 1962   TRIKL-S
    GAMMA ENERGY DEPOSITION IN INFINITE SOURCE MEDIA
    BY ALEX LORENZ
    FORTRAN FOR IBM-7090

UCRL-6912   MAY 1962   SOPHIST II
    SOPHIST II, A GROUP CROSS SECTION IBM 7090 CODE
    BY EUGENE H. CANFIELD AND JOSEPH PETTIBONE

UCRL-7023   JUNE 1962   ABYSS
    ABYSS - A NARROW RESONANCE, EPITHERMAL NEUTRON CAPTURE
    PROBABILITY CODE FOR INFINITE PLANE LATTICES
    BY G. M. BENSON AND B. K. CROWLEY

UCRL-7477   AUGUST 1963   RHOBURN
    RHOBURN, A NUCLEAR REACTOR CODE FOR CALCULATING BURNUP AND
    OPERATIONAL PARAMETERS FOR THE LPTR
    BY G. V. PEFLEY, JR.

UCRL-7624   DECEMBER 1963   SOPHIST-5
    SOPHIST-5, AN IBM 7090/7094 FORTRAN II CODE WHICH CALCULATES
    MULTIGROUP ENERGY TRANSFER MATRICES FOR ANISOTROPIC ELASTIC
    SCATTERING OF NEUTRONS
    BY EUGENE CANFIELD

UCRL-7630   DECEMBER 1963   YOGI-N
    YOGI-N - A NEUTRON MONTE CARLO PROGRAM
    BY SIMON KELLMAN AND JOSEPH PETTIBONE
    IBM 7090

UCRL-11647   SEPTEMBER 1964   RANGE
    FORTRAN-SUBROUTINE RANGE- CALCULATING THE RANGE-ENERGY
    RELATION FOR CHARGED PARTICLES IN CHEMICAL ELEMENTS
    BY W. PETER TROWER

UCRL-11650 (MF)   SEPTEMBER 1964   KINE
    FORTRAN PROGRAM KINE -- CALCULATING KINEMATICAL AND DYNAM-
    ICAL QUANTITIES FOR PARTICLE INTERACTIONS AND DECAYS
    BY W. PETER TROWER

UCRL-12005   AUGUST 1964   YOGI-G
    YOGI-G- A GAMMA-RAY MONTE CARLO PROGRAM
    BY SIMON KELLMAN
    FORTRAN II FOR IBM 7090 AND 7094

UCRL-14165   MAY 1965   FOTRAC
    A MONTE CARLO PHOTON TRACING COMPUTER PROGRAM
    BY NAN DAVIES AND JOHN TERRALL
    FORTRAN FOR IBM 7090

UCRL CROSS SECTIONS   SEPTEMBER 1963   MESNE
MESNE, A CROSS SECTION AVERAGING CODE
BY WALTER ARON

UMNE   -   DEPARTMENT OF CHEMICAL ENGINEERING
           UNIVERSITY OF MARYLAND
           COLLEGE PARK, MARYLAND

     UMNE-2   JUNE 1962   DDA
        (TID-17014)
        INTERIM REPORT ON SCATTERING OF GAMMAS THROUGH DUCTS
        FORTRAN FOR IBM-1620

UNC   -   UNITED NUCLEAR CORPORATION
           WHITE PLAINS, NEW YORK

     ARL TECH. RPT. 60-314   DECEMBER 1960   NIOBE
        A PROGRAM FOR THE NUMERICAL INTEGRATION OF THE BOLTZMANN
        TRANSPORT EQUATION
        BY S. PREISER, G. RABINOWITZ, AND E. DEDUFOUR

     NDA-2120-3   DECEMBER 1959   RENUPAK
        RENUPAK - AN IBM-704 PROGRAM FOR NEUTRON MOMENT CALCULATIONS
        BY J. CERTAINE, E. DEDUFOUR, AND G. RABINOWITZ

     NDA 2143-18   AUGUST 1961   NIOBE
        MILITARY COMPACT REACTOR PROGRAM - DESCRIPTION OF INPUT
        PREPARATION AND OPERATING PROCEDURES FOR 9-NIOBE, AN IBM-
        7090 CODE
        BY D. YETMAN, B. EISENMAN, AND G. RABINOWITZ

     UNC-5031   AUGUST 1962   NAGTRAN
        A DESCRIPTION OF AN IBM-7090 MONTE CARLO PROGRAM FOR THE
        SOLUTION OF THE TIME DEPENDENT NEUTRON AND GAMMA TRANSPORT
        PROBLEMS IN AN ATMOSPHERE WITH DENSITY DEPENDENT ON HEIGHT
        BY C. MAROTTA AND W. GUBER

     UNC-5043   NOVEMBER 1962   HANGER
        AN IBM-7090 MONTE CARLO PROGRAM TO CALCULATE NEUTRON TRANS-
        PORT IN CYLINDRICALLY SYMMETRIC SHIELDS WITH PARTICULAR
        EMPHASIS ON NEUTRON HEATING IN LIQUID HYDROGEN
        BY G. RABINOWITZ, F. MALMBORG, AND M. SHAPIRO

UNC-5093   AUGUST 1964   UNC-SAM
    UNC-SAM A FORTRAN MONTE CARLO SYSTEM FOR THE EVALUATION
    OF NEUTRON OR GAMMA-RAY TRANSPORT IN THREE-DIMENSIONAL
    GEOMETRY
    BY B. EISENMANN AND F. R. NAKACHE

UNC PHYS/MATH-3321   NOVEMBER 1963   DTF
    DTF USERS MANUAL - VOLUME I
    BY WALTER GUBER, MARTIN SHAPIRO (UNC), AND
    BENGT G. CARLSON, WILLIAM J. WORLTON (LASL)

UNUCOR-631   MARCH 1963   NIOBE
    ADVANCED SHIELD CALCULATIONAL TECHNIQUES, VOLUME I
    BY D. YETMAN, B. EISENMAN, AND G. RABINOWITZ

UNUCOR-632   MARCH 1963   NIOBE
    ADVANCED SHIELD CALCULATIONAL TECHNIQUES, VOLUME II
    BY S. PREISER, G. RABINOWITZ, AND E. DEDUFOUR

UNUCOR-633   MARCH 1963   SANE, SAGE
    ADVANCED SHIELD CALCULATIONAL TECHNIQUES, VOLUME III
    BY WALTER GUBER AND MARTIN SHAPIRO
    FORTRAN/FAP

UNUCOR-634   MARCH 1963   SANE, SAGE
    ADVANCED SHIELD CALCULATIONAL TECHNIQUES, VOLUME IV
    BY MORTON R. FLEISHMAN

UNUCOR-635   MARCH 1963   ADONIS
    ADVANCED SHIELD CALCULATIONAL TECHNIQUES, VOLUME V
    BY BURTON EISENMAN AND ELINOR HENNESSY
    IBM 7090 AND CDC 1604

UNUCOR-   SEE UNC

USNCEL-   UNITED STATES NAVAL CIVIL ENGINEERING LABORATORY
          PORT HUENEME, CALIFORNIA

    USNCEL-TR-379   JUNE 1965   UNIGEOM
                                                     FOR ADONIS
        A MONTE CARLO CALCULATION OF NEUTRON STREAMING THROUGH
        TWO-LEGGED-DUCT ENTRANCEWAYS
        BY LEONARD B. GARDNER AND ALAN J. METTLER
        FORTRAN FOR IBM-7090

USNRDL-   U.S. NAVAL RADIOLOGICAL DEFENSE LAB.
           SAN FRANCISCO, CALIFORNIA

    USNRDL-TR-829   MARCH 1965   PULS-HT
        A COMPUTER PROGRAM FOR UNFOLDING PULSE-HEIGHT DISTRIBUTIONS
        BY C. V. SMITH AND N. E. SCOFIELD
        FORTRAN FOR IBM-704

WADC   -   WRIGHT AIR DEVELOPMENT CENTER, USAF,
           WRIGHT-PATTERSON AIR FORCE BASE, OHIO

    WADC-TR-58-80   APRIL 1958   TRIG-1
        A MONTE CARLO CODE FOR GAMMA RAY TRANSMISSION THROUGH
        LAMINATED SLAB SHIELDS
        BY R. A. LIEDTKE AND H. A. STEINBERG
        IBM 704

    WADC-TR-58-383   APRIL 1958   TRIG-1
        TRANSMISSION MATRIX AND MONTE CARLO GAMMA RAY PENETRATION
        BY RAPHAEL ARONSON
        IBM 704

    WADC-TR-59-443   SEPTEMBER 1960   FANTASIA,
                                                         TRIPOD
        FANTASIA AND TRIPOD - SHIELDING CODES FOR THE 1103A
        UNIVAC
        BY H. STEINBERG, J. HEITNER, AND R. ARONSON

    WADC-TR-59-771   AUGUST 1960   TRIGR
        MONTE CARLO CALCULATIONS OF GAMMA RAY PENETRATION
        BY RAPHAEL ARONSON
        IBM 704

    WADC-TR-59-772   AUGUST 1960   TRAMM-P
        THE TRANSMISSION MATRIX METHOD FOR PENETRATION PROBLEMS
        BY DAVID YARMUSH, JULIUS ZELL, AND RAPHAEL ARONSON
        FORTRAN II FOR IBM 704

WANL — WESTINGHOUSE ELECTRIC CORPORATION
ASTRONUCLEAR LABORATORY
PITTSBURGH 36, PENNSYLVANIA

WANL-TNR-063   SEPTEMBER 1962   ACT I
ACTIVATION SOURCE STRENGTH PROGRAM
BY P. C. HEISER AND L. O. RICKS
FORTRAN II FOR IBM-7090

WANL-TNR-063-ADDENDUM   —   ACT II
AN ADDENDUM TO ACTIVATION SOURCE STRENGTH PROGRAM
BY P. C. HEISER AND L. O. RICKS
FORTRAN

WANL-TNR-133 (MF)   SEPTEMBER 1963   VARI-QUIR
A TWO-DIMENSIONAL TIME-DEPENDENT MULTI-GROUP DIFFUSION CODE
BY J. W. RIESE AND G. COLLIER
FORTRAN

WAPD — BETTIS ATOMIC POWER LABORATORY
PITTSBURGH, PENNSYLVANIA
(OPERATED FOR THE USAEC BY WESTINGHOUSE ELECTRIC CORP.)

WAPD-232   MAY 1960   RDR-5, PREP
A P-9 MULTIGROUP METHOD FOR SOLUTION OF THE TRANSPORT
EQUATION IN SLAB GEOMETRY
BY R. C. GAST
NORC COMPUTER

WAPD-BT-31 (PAGE 43-49)   1964   GR-1
PENETRATION OF POINT MONODIRECTIONAL GAMMA RAYS THROUGH
SLAB SHIELDS
BY K. SHURE
PHILCO-2000

WAPD-CONF-39-61   MAY 1963   STATURE
COMPUTER ANALYSIS OF THERMAL STRESSES IN ANNULAR CONCRETE
SHIELD
BY DAVID R. THOMAS
FORTRAN FOR IBM 7094

WAPD-T-1734 (MF)   JULY 1964   CORSAMP
THE USE OF CORRELATED SAMPLING IN MONTE CARLO CALCULATION
OF CHANGES IN THERMAL ABSORPTION
BY N. J. CURLES, JR. AND L. A. ONDIS

WAPD-TM-28-ADD. 2   JULY 1959   WANDA
 ADDENDUM 2 -- WANDA - A ONE-DIMENSIONAL FEW-GROUP DIF-
 FUSION EQUATION CODE FOR THE IBM-704
 BY O. J. MARLOWE

WAPD-TM-70   AUGUST 1957   PDQ
 PDQ--AN IBM-704 CODE TO SOLVE THE TWO-DIMENSIONAL
 FEW-GROUP NEUTRON-DIFFUSION EQUATIONS
 BY G. G. BILODEAU, W. R. CADWELL, J. P. DORSEY,
 J. G. FAIREY, AND R. S. VARGA

WAPD-TM-125   NOVEMBER 1959   TUT-T5
 TUT-T5 - A TWO DIMENSIONAL MONTE CARLO CALCULATION OF
 CAPTURE PROBABILITIES FOR THE IBM-704
 BY J. SPANIER, H. KUEHN, AND W. GUILINGER

WAPD-TM-134   MARCH 1959   FLIP
 FLIP - AN IBM-704 CODE TO SOLVE THE PL AND DOUBLE-PL
 EQUATIONS IN SLAB GEOMETRY
 BY B. L. ANDERSON, J. A. DAVIS, E. M. GELBARD,
 AND P. H. JARVIS

WAPD-TM-135   JULY 1959   PIMG
 PIMG - A ONE-DIMENSIONAL MULTIGROUP PI CODE FOR THE
 IBM-704
 BY H. BOHL, JR., E. M. GELBARD, G. R. CULPEPPER, AND
 P. F. BUERGER

WAPD-TM-143   OCTOBER 1959   TKO
 TKO - A THREE-DIMENSIONAL NEUTRON-DIFFUSION CODE FOR THE
 IBM-704
 BY W. R. CADWELL

WAPD-TM-156   NOVEMBER 1959   ART
 ART - A PROGRAM FOR THE TREATMENT OF REACTOR THERMAL
 TRANSIENTS ON THE IBM-704
 BY J. E. MEYER, R. B. SMITH, H. G. GELBARD, D. E. GEORGE,
 AND W. D. PETERSON

WAPD-TM-162   JANUARY 1959   HERD
 HERD 1, 2, AND 3 - IBM-704 CODES USED TO SOLVE THE ONE-
 DIMENSIONAL, ONE-VELOCITY TRANSPORT EQUATION WITH ISO-
 TROPIC SCATTERING
 BY L. A. HAGEMAN

WAPD-TM-176   AUGUST 1959   SPAN-2
 SPAN-2 - AN IBM-704 CODE TO CALCULATE UNCOLLIDED FLUX
 OUTSIDE A CIRCULAR CYLINDER
 BY P. A. GILLIS, T. J. LAWTON, AND K. W. BRAND

WAPD-TM-179   MARCH 1960   PDQ-3
 PDQ-3 - A PROGRAM FOR THE SOLUTION OF THE NEUTRON-DIF-
 FUSION EQUATIONS IN TWO DIMENSIONS ON THE IBM-704
 BY W. R. CADWELL, J. P. DORSEY, H. P. HENDERSON,
 J. M. LISKA, J. T. MANDEL, AND M. C. SUGGS

WAPD-TM-186   JANUARY 1960   TUT-T5
 THE PHYSICS AND MATHEMATICAL ANALYSIS FOR THE TUT-T5
 MONTE CARLO CODE
 BY J. SPANIER

WAPD-TM-196   NOVEMBER 1959   SPIC-1
 SPIC-1 - AN IBM-704 CODE TO CALCULATE THE NEUTRON
 DISTRIBUTION OUTSIDE A RIGHT-CIRCULAR CYLINDRICAL SOURCE
 BY P. GILLIS

WAPD-TM-205   FEBRUARY 1960   EURIPUS-3,
                     DAEDALUS
 EURIPUS-3 AND DAEDALUS--MONTE CARLO DENSITY CODES FOR THE
 IBM-704
 BY H. J. AMSTER, H. G. KUEHN, AND J. SPANIER

WAPD-TM-217   JULY 1960   TRIP-1
 A TWO-DIMENSIONAL P-3 PROGRAM IN X-Y GEOMETRY FOR THE
 IBM-704
 BY E. GELBARD, J. DAVIS, J. DORSEY, H. MITCHELL, AND
 J. MANDEL
 IBM 704

WAPD-TM-230   JUNE 1961   PDQ-4
 PDQ-4 - A PROGRAM FOR THE SOLUTION OF THE NEUTRON-
 DIFFUSION EQUATIONS IN TWO DIMENSIONS ON THE PHILCO-2000
 BY W. R. CADWELL, J. P. DORSEY, J. T. MANDEL, S. H. MEANOR,
 AND H. H. MITCHELL

WAPD-TM-235   FEBRUARY 1962   SPAN-3
 SPAN-3 A SHIELD DESIGN PROGRAM FOR THE PHILCO-2000
 BY W. H. GUILINGER, N. D. COOK, AND P. A. GILLIS

WAPD-TM-241   NOVEMBER 1960   WANDA-5
 WANDA-5 A ONE-DIMENSIONAL NEUTRON DIFFUSION EQUATION
 PROGRAM FOR THE PHILCO 2000
 BY O. J. MARLOWE AND M. C. SUGGS

WAPD-TM-272   SEPTEMBER 1963   P3MG1
 P3MG1 - A ONE-DIMENSIONAL MULTIGROUP P-3 PROGRAM FOR
 THE PHILCO-2000
 BY H. BOHL, JR., E. M. GELBARD, B. L. ANDERSON, A. P. HEMP-
 HILL, AND B. P. PETERSON

WAPD-TM-273   MAY 1962   MARC
    MARC - A MULTIGROUP MONTE CARLO PROGRAM FOR THE
    CALCULATION OF CAPTURE PROBABILITIES
    BY E. M. GELBARD, H. B. ONDIS, AND J. SPANIER

WAPD-TM-292   NOVEMBER 1961   M0086
    A FORTRAN CODE FOR GAMMA PENETRATION IN A FINITE SLAB
    BY B. D. OREILLY

WAPD-TM-315   APRIL 1962   M0150
    M0150 - A FORTRAN PROGRAM TO SOLVE THE DOUBLE P-3
    EQUATIONS IN SLAB GEOMETRY
    BY R. M. CANTWELL

WAPD-TM-320   APRIL 1962   M0176
    M0176 - A FORTRAN PROGRAM TO SOLVE SEVERAL P-APPROXI-
    MATIONS TO THE FEW GROUP NEUTRON TRANSPORT EQUATION
    IN SLAB GEOMETRY
    BY R. M. CANTWELL

WAPD-TM-334(REC.) (MF)   JUNE 1964   CINDER
    A ONE POINT DEPLETION AND FISSION PRODUCT PROGRAM
    BY T. R. ENGLAND

WAPD-TM-352   OCTOBER 1962   M0322, M0332
    FORTRAN PROGRAMS FOR CALCULATING NEUTRON ABSORPTION IN
    SPHERES DISTRIBUTED RANDOMLY
    BY R. M. CANTWELL
    IBM-7090

WAPD-TM-356   APRIL 1963   GRESG
    A FORTRAN PROGRAM TO SOLVE THE P-3 GAMMA RAY EQUATIONS
    IN SLAB GEOMETRY
    BY W. D. LANNING

WAPD-TM-363   FEBRUARY 1963   PDQ-5
    PDQ-5 -- A FORTRAN PROGRAM FOR THE SOLUTION OF THE
    TWO-DIMENSIONAL NEUTRON-DIFFUSION PROBLEM
    PART I - STEADY-STATE VERSION
    BY W. R. CADWELL, J. P. DORSEY, G. M. MORRIS, C. J. PFEIFER,
    AND A. J. VIGILOTTI

WAPD-TM-365   FEBRUARY 1963   -
    BETTIS FORTRAN PROGRAMMING, AUXILIARY SUBROUTINES

WAPD-TM-369   OCTOBER 1963   MULE
    MULE - A FORTRAN PROGRAM FOR THE CALCULATION OF THREE
    TYPES OF OVERTONE MODES
    BY R. L. EWEN

WAPD-TM-377   DECEMBER 1963   -
    EQUATIONS AND PROGRAMS FOR SOLUTIONS OF THE NEUTRON
    GROUP DIFFUSION EQUATIONS BY SYNTHESIS APPROXIMATIONS
    BY S. KAPLAN, O. J. MARLOWE, AND W. R. CADWELL

WAPD-TM-396   SEPTEMBER 1963   CTS-3
    A MULTI-GROUP TRANSPORT PROGRAM FOR INFINITE CYLINDERS
    BY J. H. BENNETT
    PHILCO-2000

WAPD-TM-407   OCTOBER 1963   RECAP-1
    RECAP-1 - A MONTE CARLO PROGRAM FOR ESTIMATING
    EPITHERMAL CAPTURE RATES IN SLABS
    BY N. R. CANDELORE AND R. C. GAST
    PHILCO-2000

WAPD-TM-427   APRIL 1964   RECAP-2
    RECAP-2 - A MONTE CARLO PROGRAM FOR ESTIMATING EPITHERMAL
    CAPTURE RATES IN ROD ARRAYS
    BY N. R. CANDELORE AND R. C. GAST
    FORTRAN FOR PHILCO 2000

WAPD-TM-436   APRIL 1964   EMPIRE-1, -2
    EMPIRE-1 AND EMPIRE-2 FORTRAN MULTIGROUP DISCRETE ORDINATE
    TRANSPORT CODES TO SOLVE SLAB GEOMETRIES
    BY J. D. BUTLER

WAPD-TM-437   MARCH 1964   RECAP-3
    RECAP-3 - A MONTE CARLO PROGRAM FOR ESTIMATING EIPTHERMAL
    CAPTURE RATES IN RECTANGULAR OR 60 DEGREE PARALLELOGRAM
    GEOMETRY
    BY N. R. CANDELORE AND R. C. GAST
    FORTRAN

WAPD-TM-477 (MF)   JANUARY 1965   PDQ-5
                                                     PDQ-6
    THE PDQ-5 AND PDQ-6 PROGRAMS FOR THE SOLUTION OF THE
    TWO-DIMENSIONAL NEUTRON DIFFUSION-DEPLETION PROBLEM
    BY W. R. CADWELL, P. F. BUERGER, AND C. J. PFEIFER
    FORTRAN II FOR PHILCO 212

WAPD-TM-478 (MF)   JANUARY 1965   HARMONY
    SYSTEM FOR NUCLEAR REACTOR DEPLETION COMPUTATION
    BY R. J. BREEN, O. J. MARLOWE, AND C. J. PFEIFER

WAPD-TM-481   OCTOBER 1964   SNUG
    A MONTE CARLO SHIELD DESIGN PROGRAM FOR THE PHILCO-2000
    COMPUTER
    BY N. D. COOK

WAPD-TM-482   OCTOBER 1964   TXYOI
A ONE-GROUP TRANSPORT PROGRAM FOR X-Y GEOMETRY
BY J. H. BENNETT
ALTAC AND TAC FOR PHILCO 2000

WAPD-TM-493   -   ROC-I
ROC-I A FORTRAN PROGRAM FOR STORAGE OF EVALUATED NUCLEAR
DATA
BY D. R. HARRIS, A. V. VOTA, G. E. MORRIS, C. B. NOLL,
AND H. BOHL, JR.
FORTRAN FOR PHILCO 2000

WAPD-TM-494   NCVEMBER 1964   MO564
A FORTRAN PROGRAM FOR SYMMETRIC AND ASYMMETRIC RESONANCE
INTEGRALS
BY D. R. HARRIS AND G. J. PETERS
FORTRAN FOR PHILCO 2000

WAPD-TM-501   APRIL 1965   RAM-I
A FORTRAN PROGRAM TO TRANSFORM AND AVERAGE CROSS SECTIONS
FROM THE ROC LIBRARY TAPE FOR USE IN MULTIGROUP NEUTRON
TRANSPORT PROGRAMS
BY D. R. HARRIS, C. B. NOLL, AND A. V. VOTA
FORTRAN FOR PHILCO 2000

WCAP   -   WESTINGHOUSE ELECTRIC CORPORATION
           ATOMIC POWER DIVISION
           PITTSBURGH 30, PENNSYLVANIA

WCAP-3269-26   SEPTEMBER 1963   LEOPARD
A SPECTRUM DEPENDENT NON-SPATIAL DEPLETION CODE FOR THE
IBM-7094
BY R. F. BARRY
FORTRAN II AND FAP

WCAP-6C58   JANUARY 1964   CNCR-2
CNCR-2 - A ONE-DIMENSIONAL FEW GROUP DEPLETION CODE
FOR THE IBM-7090, WHICH INCLUDES THE EFFECTS OF WATER
DENSITY VARIATIONS ON NEUTRON MODERATION
BY S. M. HENDLEY AND R. A. MANGAN

WCAP-6C58 TEMPORARY ERRATA   JUNE 1964   CNCR-2

WCAP-6C59   MARCH 1964   TURBO
TURBO - A TWO DIMENSIONAL FEW-GROUP DEPLETION CODE
FOR THE IBM-7090
BY S. M. HENDLEY AND R. A. MANGAN

WL   - AIR FORCE WEAPONS LABORATORY
            KIRTLAND AIR FORCE BASE
            ALBUQUERQUE, NEW MEXICO

WL-TDR-64-46, VOL. I   JULY 1964   TRG-SGD
    TRG-SGD, A MONTE CARLO PROGRAM TO CALCULATE SECONDARY
    GAMMA RAY DOSE FROM A NUCLEAR WEAPON DETONATION
    BY HERBERT STEINBERG AND RAPHAEL ARONSON
    FORTRAN/CODAP

WL-TDR-64-46, VOL. II   JULY 1964   TRG-SGD
    TRG-SGD, A MONTE CARLO PROGRAM TO CALCULATE SECONDARY
    GAMMA RAY DOSE FROM A NUCLEAR WEAPCN DETONATION
    BY HERBERT STEINBERG AND RAPHAEL ARONSON
    FORTRAN/CODAP

WL-TDR-64-71, VOL. I   AUGUST 1964   SPARES
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